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MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C
ONE FINANCIAL CENTER
BOSTON, MA 02111

EXAMINER	
SMITH, JOSHUA Y	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/730,004	YLA-OUTINEN ET AL.	
	Examiner	Art Unit	
	JOSHUA SMITH	2477	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _23 September 2009_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-44_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-44_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

- **Claims 1-44 are pending.**
- **Claims 1-44 stand rejected.**

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

   1. Determining the scope and contents of the prior art.
   2. Ascertaining the differences between the prior art and the claims at issue.
   3. Resolving the level of ordinary skill in the pertinent art.
   4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1, 14, 15, 24, 26-33, 40, 42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow (Document Number: EP 1 089 515 A2) in view of Sakagawa et al. (Patent No.: US 6,421,321 B1) and Tsuchiya (Patent Number: 5,583,996), hereafter respectively referred to as Morrow, Sakagawa, and Tsuchiya.

As for Claim 1, Morrow teaches in paragraph [0010], lines 3-8, improving the efficiency of call control load sharing mechanism among call control servers of a

connectionless packet network (a method of controlling processing load in a packet data network).

Morrow also teaches in paragraph [0023], lines 14-28, the Round Robin load sharing routine is implemented, and, in paragraph [0024], lines 37-45, the results of this load sharing routine include a new destination address that is entered into the packet, implicitly teaching that the load sharing routine implements load sharing through this destination address alteration, and the new destination address “contains” load sharing information for devices that will receive the packet with the new destination address (setting a load control information in a predetermined field of a message).

Morrow also teaches in paragraph [0021], lines 27-30 and 31-34, and in Fig. 3A, page 10, of a session client server or CSCF process sending an INVITE message to NAT ROUTER/SWITCH (routing said message in said packet data network).

Morrow also teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (checking said load control information on the routing path of said message, selecting a processing resource of said packet data network in response to the result of said checking).

Morrow fails to teach load control information is provided to a network element operating in a packet data network to terminate a network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (setting load control information in a layer three message, load control information is provided to a network element operating in a packet data network to terminate a network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of Morrow since Sakagawa provides a method which can transfer packets at high speeds and in high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of Morrow to allow the selection of paths that provide higher packet transfer speeds in addition to load sharing and expanding the management capabilities of the system of Morrow.

Morrow fails to teach setting a load control information in a predetermined field of a layer three message.

Tsuchiya teaches in column 11, lines 12-25, and in column 16, lines 33-34, and in FIG. 6 and FIG. 9, an access point node Ra (FIG. 6) generates a packet, such as the packet 110 shown in FIG. 9, which is useful for conveying shortcut information, where the packet 110 has a PDN subnetwork header 111, a shortcut header 113 (FIG. 9), an internet header 112 and data 114 (FIG. 9), and where the shortcut header 113 has a shortcut address field 113-1 (FIG. 9), and the access point node Ra also writes its PDN subnetwork address in the shortcut address field 113-1, and the shortcut header is provided with a flag field 113-2 (FIG. 9) (setting a load control information in a predetermined field of a layer three message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Tsuchiya with the invention of Morrow since Tsuchiya provides a method for determining shortcut communication paths across the public data network between nodes in different stubs that overcomes the large internet addresses and heavy load problems of prior art solutions (see Tsuchiya, column 1, lines 11-14, and column 5, line 60 to column 6, line 18), which can be introduced into the system of Morrow to allow redirection of packets onto optimal paths and aid in providing faster network services to users in the system of Morrow.

As for Claim 14, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 1 teaches load control information. Morrow further shows in lines 41-54, column 8, and

in FIG. 7, page 14, that a message is checked by the NAT to determine if the message is the first message of a transaction yet to be established by the NAT or a message of an already established transaction, implicitly teaching that the message contains sufficient information to determine this.

As for Claim 15, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 1 teaches load control information and a session. Morrow further shows in lines 48-54, column 8, and in FIG. 7, page 14, the NAT can identify the CSCF and the transaction originator if the handshake process has already happened, implicitly teaching that the message contains sufficient information after a handshake process to determine the participants of an established connection.

As for Claim 24, Morrow in view of Sakagawa and Tsuchiya as applied to Claims 1 and 15 teach those limitations. Morrow further teaches extracting information in response to detecting information. Morrow further teaches in paragraph [0022], lines 46-48, when an incoming packet is detected with a destination address of C, the NAT looks it up in the route table, implicitly teaching that the NAT can detect the address of C in the incoming packet and extract it for the purposes of comparing it to the route table.

As for Claim 26, Morrow teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to

find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (a checking unit configured to check load control information on the routing path of said message, a selector configured to select a processing resource of said packet data network).

Morrow fails to teach load control information is provided to a network element operating in a packet data network to terminate a network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (load control information provided in a layer three message, load control information is provided to a network element operating in a packet data network to terminate a network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of Morrow since Sakagawa provides a method which can transfer packets at high speeds and in high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of Morrow to allow the selection of paths that provide higher packet transfer speeds in addition to load sharing and expanding the management capabilities of the system of Morrow.

Morrow fails to teach load control information provided in a predetermined field of a layer three message.

Tsuchiya teaches in column 11, lines 12-25, and in column 16, lines 33-34, and in FIG. 6 and FIG. 9, an access point node Ra (FIG. 6) generates a packet, such as the packet 110 shown in FIG. 9, which is useful for conveying shortcut information, where the packet 110 has a PDN subnetwork header 111, a shortcut header 113 (FIG. 9), an internet header 112 and data 114 (FIG. 9), and where the shortcut header 113 has a shortcut address field 113-1 (FIG. 9), and the access point node Ra also writes its PDN subnetwork address in the shortcut address field 113-1, and the shortcut header is provided with a flag field 113-2 (FIG. 9) (load control information provided in a predetermined field of a layer three message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Tsuchiya with the invention of Morrow since Tsuchiya provides a method for determining shortcut communication paths across the

public data network between nodes in different stubs that overcomes the large internet addresses and heavy load problems of prior art solutions (see Tsuchiya, column 1, lines 11-14, and column 5, line 60 to column 6, line 18), which can be introduced into the system of Morrow to allow redirection of packets onto optimal paths and aid in providing faster network services to users in the system of Morrow.

As for Claims 27, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 26 teach those limitations. Morrow further teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system.

As for Claim 28, Morrow teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (substantively the same as "a selector is configured to select a predetermined processor node to which said message is distributed" in the instant invention).

As for Claims 29 and 30, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 26 teaches load control information. Morrow further shows in lines 41-54, column 8, and in FIG. 7, page 14, that a message is checked by the NAT to determine if the message is the first message of a transaction yet to be established by the NAT or a message of an already established transaction, implicitly teaching that the message contains sufficient information to determine this.

As for Claim 31, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 30 teaches load control information and a session. Morrow further shows in lines 48-54, column 8, and in FIG. 7, page 14, the NAT can identify the CSCF and the transaction originator if the handshake process has already happened, implicitly teaching that the message contains sufficient information after a handshake process to determine the participants of an established connection.

As for Claim 32, Morrow teaches in paragraph [0023], lines 14-28, the Round Robin load sharing routine is implemented, and, in paragraph [0024], lines 37-45, the results of this load sharing routine include a new destination address that is entered into the packet, implicitly teaching that the load sharing routine implements load sharing through this destination address alteration, and the new destination address "contains" load sharing information for devices that will receive the packet with the new destination address, and, in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing

values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (a transmitter configured to transmit a message to a packet data network, wherein said apparatus is configured to set into a predetermined field of said message a load control information to select processing resources of said packet data network).

Morrow fails to teach load control information is provided to a network element operating in a packet data network to terminate a network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (setting load control information in a layer three message, load control information is provided to a network element operating in a packet data network to terminate a network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of Morrow since Sakagawa provides a method which can transfer packets at high speeds and in high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of Morrow to allow the selection of paths that provide higher packet transfer speeds in addition to load sharing and expanding the management capabilities of the system of Morrow.

Morrow fails to teach setting a load control information in a predetermined field of a layer three message.

Tsuchiya teaches in column 11, lines 12-25, and in column 16, lines 33-34, and in FIG. 6 and FIG. 9, an access point node Ra (FIG. 6) generates a packet, such as the packet 110 shown in FIG. 9, which is useful for conveying shortcut information, where the packet 110 has a PDN subnetwork header 111, a shortcut header 113 (FIG. 9), an internet header 112 and data 114 (FIG. 9), and where the shortcut header 113 has a shortcut address field 113-1 (FIG. 9), and the access point node Ra also writes its PDN subnetwork address in the shortcut address field 113-1, and the shortcut header is provided with a flag field 113-2 (FIG. 9) (a transmitter configured to transmit a layer three message, setting a load control information in a predetermined field of a layer three message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Tsuchiya with the invention of Morrow since

Tsuchiya provides a method for determining shortcut communication paths across the public data network between nodes in different stubs that overcomes the large internet addresses and heavy load problems of prior art solutions (see Tsuchiya, column 1, lines 11-14, and column 5, line 60 to column 6, line 18), which can be introduced into the system of Morrow to allow redirection of packets onto optimal paths and aid in providing faster network services to users in the system of Morrow.

As for Claim 33, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 32 teach those limitations. Morrow further teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system.

As for Claim 40, Morrow teaches in paragraph [0023], lines 14-28, the Round Robin load sharing routine is implemented, and, in paragraph [0024], lines 37-45, the results of this load sharing routine include a new destination address that is entered into the packet, implicitly teaching that the load sharing routine implements load sharing through this destination address alteration, and the new destination address “contains” load sharing information for devices that will receive the packet with the new destination address (substantively the same as “set a load control information in a predetermined field of a message” and in the instant invention).

Morrow also teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (check load control information on the routing path of said message, select a processing resource of said packet data network in response to the result of said checking" in the instant invention).

Morrow fails to teach load control information is provided to a network element operating in a packet data network to terminate a network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (setting load control information in a layer three message, load control information is provided to a network element operating in a packet data network to terminate a network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of Morrow since Sakagawa provides a method which can transfer packets at high speeds and in high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of Morrow to allow the selection of paths that provide higher packet transfer speeds in addition to load sharing and expanding the management capabilities of the system of Morrow.

Morrow fails to teach setting a load control information in a predetermined field of a layer three message.

Tsuchiya teaches in column 11, lines 12-25, and in column 16, lines 33-34, and in FIG. 6 and FIG. 9, an access point node Ra (FIG. 6) generates a packet, such as the packet 110 shown in FIG. 9, which is useful for conveying shortcut information, where the packet 110 has a PDN subnetwork header 111, a shortcut header 113 (FIG. 9), an internet header 112 and data 114 (FIG. 9), and where the shortcut header 113 has a shortcut address field 113-1 (FIG. 9), and the access point node Ra also writes its PDN subnetwork address in the shortcut address field 113-1, and the shortcut header is provided with a flag field 113-2 (FIG. 9) (setting a load control information in a predetermined field of a layer three message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Tsuchiya with the invention of Morrow since Tsuchiya provides a method for determining shortcut communication paths across the

public data network between nodes in different stubs that overcomes the large internet addresses and heavy load problems of prior art solutions (see Tsuchiya, column 1, lines 11-14, and column 5, line 60 to column 6, line 18), which can be introduced into the system of Morrow to allow redirection of packets onto optimal paths and aid in providing faster network services to users in the system of Morrow.

As for Claim 42, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 40 teach those limitations. Morrow further teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system.

As for Claim 44, Morrow teaches in paragraph [0010], lines 3-8, improving the efficiency of call control load sharing mechanism among call control servers of a connectionless packet network (substantively the same as “A method of controlling processing load in a packet data network” in the instant invention).

Morrow also teaches in paragraph [0023], lines 14-28, the Round Robin load sharing routine is implemented, and, in paragraph [0024], lines 37-45, the results of this load sharing routine include a new destination address that is entered into the packet, implicitly teaching that the load sharing routine implements load sharing through this destination address alteration, and the new destination address “contains” load sharing

information for devices that will receive the packet with the new destination address (setting a load control information in a predetermined field of a message).

Morrow also teaches in paragraph [0021], lines 27-30 and 31-34, and in Fig. 3A, page 10, of a session client server or CSCF process sending an INVITE message to NAT ROUTER/SWITCH (routing said message in said packet data network).

Morrow also teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (checking said load control information on the routing path of said message, selecting a processing resource of said packet data network in response to the result of said checking).

Morrow fails to teach load control information is provided to a network element operating in a packet data network to terminate a network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress

system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (setting load control information in a layer three message, load control information is provided to a network element operating in a packet data network to terminate a network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of Morrow since Sakagawa provides a method which can transfer packets at high speeds and in high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of Morrow to allow the selection of paths that provide higher packet transfer speeds in addition to load sharing and expanding the management capabilities of the system of Morrow.

Morrow fails to teach setting a load control information in a predetermined field of a layer three message.

Tsuchiya teaches in column 11, lines 12-25, and in column 16, lines 33-34, and in FIG. 6 and FIG. 9, an access point node Ra (FIG. 6) generates a packet, such as the packet 110 shown in FIG. 9, which is useful for conveying shortcut information, where the packet 110 has a PDN subnetwork header 111, a shortcut header 113 (FIG. 9), an internet header 112 and data 114 (FIG. 9), and where the shortcut header 113 has a shortcut address field 113-1 (FIG. 9), and the access point node Ra also writes its PDN subnetwork address in the shortcut address field 113-1, and the shortcut header is

provided with a flag field 113-2 (FIG. 9) (setting a load control information in a predetermined field of a layer three message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Tsuchiya with the invention of Morrow since Tsuchiya provides a method for determining shortcut communication paths across the public data network between nodes in different stubs that overcomes the large internet addresses and heavy load problems of prior art solutions (see Tsuchiya, column 1, lines 11-14, and column 5, line 60 to column 6, line 18), which can be introduced into the system of Morrow to allow redirection of packets onto optimal paths and aid in providing faster network services to users in the system of Morrow.

Claims 2, 6-8, 10-13, 18-22 and 35, are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa, Tsuchiya, and further in view of Krause et al. (Patent Number: 5,914,953), hereafter referred to as Krause.

As for Claims 2 and 35, Morrow in view of Sakagawa and Tsuchiya as applied to Claims 1 and 32 teach those limitations.

Morrow fails to teach a subfield of a user part of an address header.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that contains four sub-fields, and where each sub-field is a predetermined bit length.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 6, Morrow teaches in paragraph [0023], lines 16-22, of multiple load sharing values that are utilized in determining the final destination address: values “C”, “j”, “m”, and “n”.

Morrow does not teach of a plurality of subfields in user part for conveying different types of information.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that contains four sub-fields, and where each sub-field is designed to carry a different type of information.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 7, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 6 teach those limitations.

Morrow fails to teach the user part is parsed and divided into said subfields.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that is divided into four sub-fields.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 8, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 6, teach those limitations.

Morrow fails to teach the user part is parsed and divided into said subfields.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID with four sub-fields, where the first sub-field is a 14-bit Region ID, the second sub-field is a 6-bit Device ID, the third sub-field is three bits reserved for future expansion, and the fourth sub-field is a Path Select (P) bit.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a

router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 10, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 1 teach those limitations.

Morrow fails to teach a virtual address is shared by a plurality of processor nodes.

Krause shows in lines 56-61, column 58, of a Destination ID containing a Device ID, which is indicative of the particular device within a particular region.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claims 11, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 10 teach those limitations. Morrow further teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system.

As for Claim 12, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 2 teach those limitations.

Morrow fails to teach a port number indicating a port for receiving.

Krause further teaches in line 47, column 63, of a 3-bit target port number, and, in lines 8-9, column 64, of input ports.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 13, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claims 2 and 12 teach those limitations.

Morrow fails to teach a second port.

Krause further teaches in lines 8-9, column 64, of two or more input ports.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 18, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 1 teach those limitations.

Morrow fails to teach a part of a host name of a header field.

Krause shows in lines 55-61, column 58, of a Destination ID of a packet containing a Device ID, which is indicative of the particular device within a particular region.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 19, Morrow teaches in paragraph [0023], lines 16-22, of multiple load sharing values that are utilized in determining the final destination address: values “C”, “j”, “m”, and “n”.

Morrow does not teach load control information is set as parameter of a header field.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that contains four sub-fields, and where each sub-field is designed to carry a different type of information.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 20, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 1 teach those limitations.

Morrow fails to teach a port number indicating a port for receiving.

Krause teaches in line 47, column 63, of a 3-bit target port number, and, in lines 8-9, column 64, of input ports. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

As for Claim 21, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 20 teach those limitations. Morrow further shows differentiating between a first message form subsequent messages. Morrow further shows in lines 41-54, column 8, and in FIG. 7, page 14, that a message is checked by the NAT to determine if the message is the first message of a transaction yet to be established or a message of an

already established transaction, implicitly teaching that the message contains sufficient information to determine this.

As for Claim 22, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 14 teach those limitations.

Morrow fails to teach an extension header field.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID with four sub-fields, where the third sub-field is three bits reserved for future expansion (see item RSVD, in FIG. 21A, Sheet 18 of 30).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa, Tsuchiya, and further in view of Orton et al. (US 6,678,735 B1), hereafter referred to as Orton.

As for Claim 3, Morrow in view of Sakagawa, Tsuchiya as applied to Claim 1 teach those limitations.

Morrow fails to teach except a via branch of a SIP message.

Orton teaches in lines 30-34, column 1, a Via header of a SIP message. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the invention of Morrow since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is not detracted from its essential task, allowing the system elements of Morrow to connect to SIP without their application programs being overburdened.

As for Claim 4, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 1 teach those limitations. Morrow further teaches copying from one predetermined filed to another. Morrow further shows in paragraph [0021], lines 27-37, and in FIG. 3A, page 10, item CSCF 2 receives an INVITE message with C2 as the destination address, and then puts the C2 address in the source address of the TRYING message. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the invention of Morrow since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is not detracted from its essential task, allowing the system elements of Morrow to connect to SIP without their application programs being overburdened.

Claims 5 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa, Tsuchiya, Krause, and further in view of Orton

As for Claims 5 and 36, Morrow in view of Sakagawa and Tsuchiya as applied to Claims 1 and 35 teach those limitations.

Morrow fails to teach URI of a SIP Route header.

Orton teaches in lines 14-15, column 10, Route headers, and, lines 24-25 and 42-44, column 11, and in FIG. 14, Sheet 8 of 8, of SIP message containing Uniform Resource Identifier (URI).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the invention of Morrow since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is not detracted from its essential task, allowing the system elements of Morrow to connect to SIP without their application programs being overburdened.

Claims 9 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa, Tsuchiya, Krause, and further in view of Sanchez Herrero et al. (Patent No.: US 7,177,642 B2), hereafter referred to as Sanchez Herrero.

As for Claim 9, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claim 6 teach those limitations.

Morrow fails to teach except separation by bit string, character, or character string.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a Device ID separated from a path select bit (P) by 3 bits of the 3-bit RSVD field.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the invention of Morrow since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of Morrow.

Sanchez Herrero shows in line 51, column 4, a server name with two periods "." separated by a string of characters "wcom", and where "server2" is separated from "wcom" by a single period ".".

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Sanchez Herrero with the invention of Morrow since Sanchez Herrero provides a method and system where a user is allowed to register into a system from different terminals simultaneously and can receive calls for any of these terminals through one public-ID associated to a single subscription, allowing the system of Morrow to provide such a service to users.

As for Claim 34, Morrow teaches in paragraph [0016], lines 47-54, call session control functions (CSCFs).

Morrow does not teach of P-SCSF, I-CSCF, and S-CSCF.

Sanchez Herrero teaches in lines 13-14, 17-18, and 22, column 7, and in FIG. 5, Sheet 5 of 8, Proxy Call State Control Function (P-CSCF), Interrogating Call State Control Function (I-CSCF), and Serving Call State Control Function (S-CSCF).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Sanchez Herrero with the invention of Morrow since Sanchez Herrero provides a method and system where a user is allowed to register into a system from different terminals simultaneously and can receive calls for any of these terminals through one public-ID associated to a single subscription, allowing the system of Morrow to provide such a service to users.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa, Tsuchiya, Krause, Oroton, and Sanchez Herrero.

As for Claim 16, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 1 teach those limitations.

Morrow fails to teach a via header field or a contact header field of a SIP session initiation protocol message. Orton teaches a via header field of a SIP session initiation protocol message, and Sanchez Herrero teaches contact headers.

Orton teaches in lines 30-34, column 1, a Via header of a SIP message. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the invention of Morrow since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is

not detracted from its essential task, allowing the system elements of Morrow to connect to SIP without their application programs being overburdened.

Sanchez Herrero teaches in lines 45-46, column 4, of “Contact” headers. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Sanchez Herrero with the invention of Morrow since Sanchez Herrero provides a method and system where a user is allowed to register into a system from different terminals simultaneously and can receive calls for any of these terminals through one public-ID associated to a single subscription, allowing the system of Morrow to provide such a service to users.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa, Tsuchiya, and further in view of Inoue et al. (Patent No.: US 6,501,767 B1), hereafter referred to as Inoue.

As for Claim 17, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 14 teach those limitations.

Morrow fails to teach hidden information not meaningful to other networks.

Inoue teaches in column 11, lines 12-22, encryption of packets to be transmitted from a input/output unit to an external network, and packets received from an external network are decrypted (hidden information not meaningful to other networks).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Inoue with the invention of Morrow since Inoue provides a

method of encrypting data when communicating over an external network and protecting the data.

Claims 23 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa, Tsuchiya, Krause, and further in view of Fredericks et al. (Patent Number: 6,115,361), hereafter referred to as Fredericks.

As for Claim 23 and 37, Morrow in view of Sakagawa, Tsuchiya, and Krause as applied to Claims 14, 18, 19 and 20 teaches those limitations.

Morrow fails to teach information is set in the payload of the message.

Fredericks teaches in lines 7-10, column 2, upon receipt of a packet having a recognized service code in the header, a receiving device knows that the payload data is not regular information traffic, and, in lines 2-3, column 6, The first word in the payload specifies the Command Code.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Fredericks with the invention of Morrow since Fredericks provides a method where network elements can cooperate and communicate for quickly reporting link failures and to facilitate link failure diagnosis and remedial action, allowing the system of Morrow to be more robust in dealing with link failures.

As for Claim 38, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 37 teaches load control information. Morrow further shows in lines 41-54, column 8, and in FIG. 7, page 14, that a message is checked by the NAT to determine if the

message is the first message of a transaction yet to be established by the NAT or a message of an already established transaction, implicitly teaching that the message contains sufficient information to determine this.

As for Claim 39, Morrow in view of Sakagawa and Tsuchiya as applied to Claim 38 teaches load control information and a session. Morrow further shows in lines 48-54, column 8, and in FIG. 7, page 14, the NAT can identify the CSCF and the transaction originator if the handshake process has already happened, implicitly teaching that the message contains sufficient information after a handshake process to determine the participants of an established connection.

Claims 25 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa,Tsuchiya, and Fredericks.

As for Claim 25 and 41, Morrow teaches in paragraph [0010], lines 3-8, improving the efficiency of call control load sharing mechanism among call control servers of a connectionless packet network (substantively the same as “A method of controlling processing load in a packet data network” in the instant invention).

Morrow also teaches in paragraph [0023], lines 14-28, the Round Robin load sharing routine is implemented, and, in paragraph [0024], lines 37-45, the results of this load sharing routine include a new destination address that is entered into the packet, implicitly teaching that the load sharing routine implements load sharing through this destination address alteration, and the new destination address “contains” load sharing

information for devices that will receive the packet with the new destination address (substantively the same as “setting a load control information in a predetermined field of a message” and in the instant invention).

Morrow also teaches in paragraph [0021], lines 27-30 and 31-34, and in Fig. 3A, page 10, of a session client server or CSCF process sending an INVITE message to NAT ROUTER/SWITCH (substantively the same as “routing said message in said packet data network” in the instant invention).

Morrow also teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (checking said load control information on the routing path of said message, selecting a processing resource of said packet data network in response to the result of said checking).

Morrow fails to teach load control information is provided to a network element operating in a packet data network to terminate a network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B

recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (setting load control information in a layer three message, load control information is provided to a network element operating in a packet data network to terminate a network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of Morrow since Sakagawa provides a method which can transfer packets at high speeds and in high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of Morrow to allow the selection of paths that provide higher packet transfer speeds in addition to load sharing and expanding the management capabilities of the system of Morrow.

Morrow fails to teach setting a load control information in a predetermined field of a layer three message.

Tsuchiya teaches in column 11, lines 12-25, and in column 16, lines 33-34, and in FIG. 6 and FIG. 9, an access point node Ra (FIG. 6) generates a packet, such as the packet 110 shown in FIG. 9, which is useful for conveying shortcut information, where the packet 110 has a PDN subnetwork header 111, a shortcut header 113 (FIG. 9), an internet header 112 and data 114 (FIG. 9), and where the shortcut header 113 has a

shortcut address field 113-1 (FIG. 9), and the access point node Ra also writes its PDN subnetwork address in the shortcut address field 113-1, and the shortcut header is provided with a flag field 113-2 (FIG. 9) (setting a load control information in a predetermined field of a layer three message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Tsuchiya with the invention of Morrow since Tsuchiya provides a method for determining shortcut communication paths across the public data network between nodes in different stubs that overcomes the large internet addresses and heavy load problems of prior art solutions (see Tsuchiya, column 1, lines 11-14, and column 5, line 60 to column 6, line 18), which can be introduced into the system of Morrow to allow redirection of packets onto optimal paths and aid in providing faster network services to users in the system of Morrow.

Fredericks teaches in lines 66, column 4, to line 3, column 5, of devices that support a certain service maintain a registration list (e.g., a database, stack, or equivalent data structure) containing addresses of other devices from which it received requests, and, in lines 19-27, column 5, each device can exchange requests and maintain lists.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Fredericks with the invention of Morrow since Fredericks provides a method for efficiently reporting network link failures among network elements, allowing the network of Morrow to identify network problems and to compensate for and bypass such failures.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow in view of Sakagawa,Tsuchiya, and Sanchez Herrero.

As for Claim 43, Morrow teaches in paragraph [0022], lines 46-51, of an incoming packet being detected and with it a destination address C, which is used to find and calculate load sharing values and determine a load sharing routine to be used, and, in paragraph [0023], lines 25-31, to find the final destination address C1, C2, or C3, implicitly teaching that a destination address is treated as a value for implementing load sharing and is used to determine which of the CSCF with addresses C1, C2, or C3 will become the destination to process the packet (a checker configured to check load control information on the routing path of said message, a selector configured to select a processing resource of said packet data network).

Morrow fails to teach load control information is provided to a network element operating in a packet data network to terminate a network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system

and the egress system through the shortcut path (S15, S16, FIG. 4) (setting load control information in a layer three message, load control information is provided to a network element operating in a packet data network to terminate a network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of Morrow since Sakagawa provides a method which can transfer packets at high speeds and in high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of Morrow to allow the selection of paths that provide higher packet transfer speeds in addition to load sharing and expanding the management capabilities of the system of Morrow.

Morrow fails to teach setting a load control information in a predetermined field of a layer three message.

Tsuchiya teaches in column 11, lines 12-25, and in column 16, lines 33-34, and in FIG. 6 and FIG. 9, an access point node Ra (FIG. 6) generates a packet, such as the packet 110 shown in FIG. 9, which is useful for conveying shortcut information, where the packet 110 has a PDN subnetwork header 111, a shortcut header 113 (FIG. 9), an internet header 112 and data 114 (FIG. 9), and where the shortcut header 113 has a shortcut address field 113-1 (FIG. 9), and the access point node Ra also writes its PDN subnetwork address in the shortcut address field 113-1, and the shortcut header is provided with a flag field 113-2 (FIG. 9) (setting a load control information in a predetermined field of a layer three message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Tsuchiya with the invention of Morrow since Tsuchiya provides a method for determining shortcut communication paths across the public data network between nodes in different stubs that overcomes the large internet addresses and heavy load problems of prior art solutions (see Tsuchiya, column 1, lines 11-14, and column 5, line 60 to column 6, line 18), which can be introduced into the system of Morrow to allow redirection of packets onto optimal paths and aid in providing faster network services to users in the system of Morrow.

Morrow fails to teach P-SCSF, I-CSCF, and S-CSCF

Sanchez Herrero teaches in lines 13-14, 17-18, and 22, column 7, and in FIG. 5, Sheet 5 of 8, Proxy Call State Control Function (P-CSCF), Interrogating Call State Control Function (I-CSCF), and Serving Call State Control Function (S-CSCF). It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Sanchez Herrero with the invention of Morrow since Sanchez Herrero provides a method and system where a user is allowed to register into a system from different terminals simultaneously and can receive calls for any of these terminals through one public-ID associated to a single subscription, allowing the system of Morrow to provide such a service to users.

Response to Arguments

I. Arguments for Claim Rejections under 35 USC § 103.

Applicant's arguments filed 09/23/2009 have been fully considered but they are not persuasive. Applicants submit that Tsuchiya is completely silent with respect to load control information, and the shortcut information of Tsuchiya merely indicates the shortest path between two nodes rather than load control information. Examiner respectfully disagrees this is sufficient for the withdrawal of the claim rejections. Although the words “load control” are not stated in Tsuchiya, the effect of manipulating which paths a packet will be transmitted through is substantively the same as “load control” since a base path and a shortcut path utilize different paths and sets of nodes (see Tsuchiya, column 6, lines 14-62), and a change from a base path to a shortcut path alters which paths and set of nodes will carry a packet, and as a result, this changes the load among paths and nodes, and this is substantively the same as "load control" for the reasonable broadest interpretation of “load control”. In any case, as discussed in the rejection of Claim 1, Morrow teaches *load control*.

Applicants also submit that the shortest path between two points in Tsuchiya may contain a high load, and thus Tsuchiya's choice of this path would be contrary to load control. Examiner respectfully disagrees this is sufficient for the withdrawal of the claim rejections. Tsuchiya suggests in column 1, lines 11-14, and in column 7, lines 33-55, that a shortcut path used for a transmission is an ***optimal*** path and is a path that will provide faster forwarding speeds for a packet than a base path. Although a shortcut path may have a high load, it’s used if it provides more optimal forwarding than a base path and this will prevent the load of the packet from being placed on the base path, and as a result, the use of a shortcut path instead of a base path in Tsuchiya is

substantively the same as “load control”. In any case, as discussed in the rejection of Claim 1, Morrow teaches *load control*.

Applicants also submit that that shortcut header of Tsuchiya is appended to an internet protocol (IP) packet, and since Tsuchiya appends the shortcut header to an IP packet, there is no predetermined field in the IP packet for the shortcut header, and thus, the shortcut header clearly does not constitute a "predetermined field of a... message" of Claim 1. Examiner respectfully disagrees this is sufficient for the withdrawal of the claim rejections. Although the shortcut address is written in a shortcut header appended to an ordinary internet packet, the packet generated in column 11, lines 12-25 and in FIG. 9 is substantively the same as a “message”, and the header format of the header and the fields of the header format are constant throughout the system of Tsuchiya, and the header format that includes the header fields exists before a packet is received by an access point node, and using the broadest reasonable interpretation of the word “predetermined”, a header field in the header format is a “predetermined field” of a message since the field exists in the header format before the internet packet is received and before the message is generated and transmitted and before the address is written into the field. In any case, as discussed in the rejection of Claim 1, Morrow teaches *setting load control information in a predetermined field of a message*.

Applicants also submit that the shortcut path of Sakagawa is similar to the shortcut paths of Tsuchiya, and Sakagawa's shortcut path does not constitute load control information. Examiner respectfully disagrees this is sufficient for the withdrawal

of the claim rejections. As discussed similarly with respect to Tsuchiya, sending a SP Request message that causes packets to be forwarded through a shortcut path instead of a default path is substantively the same as “load control” and “load control information” since the SP Request message contains information, and this information prevents a packet load from being placed on a default path and places it on a shortcut path. In any case, as discussed in the rejection of Claim 1, Morrow teaches *load control information* and *load control information*.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA SMITH whose telephone number is 571-270-1826. The examiner can normally be reached on Monday-Friday, 10:30am-7pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua Smith
/J.S./
Patent Examiner
12-12-2009

/Gregory B Sefcheck/
Primary Examiner, Art Unit 2477
12-14-2009